Environment

# The Arctic's 'Hidden Ocean'

by Richard Harris

Kevin Raskoff

A clione -- a shell-less snail also known as a sea butterfly -- usually swims in the shallow waters beneth Arctic ice.

### Hear Part 2 of the Report

- Sep. 28, 2005
Researchers Race to Catalog Arctic Species

Jeremy Potter

Rolf Gradinger works on bringing an ice core to the surface while Mette Nielson takes measurements on a core already brought to the surface.

*Morning Edition,* September 28, 2005 · The Arctic Ocean is one of the most unexplored places on Earth. It's also changing rapidly -- in the summer, sea ice is melting more quickly than usual, due to rising air temperatures.

These changes could have serious consequences for Arctic ecosystems. An expedition this past summer set out to survey the biological diversity of the Arctic Ocean, and what species are at risk.

The *Healy*, a 420-foot U.S. Coast Guard icebreaker, recently ferried a team of more than two dozen biologists to the most remote parts of the Arctic Ocean. The expedition, funded by the National Oceanic and Atmospheric Administration (NOAA) was dubbed the "Hidden Ocean" cruise.

A region where it's rare to glimpse a living creature anywhere on the horizon seems an unlikely spot for biologists. But in reality, the environment is teeming with life, and the biologists know just where to look for it -- all the way from above the ice to two miles below the surface, on the ocean's floor.

That sea floor is larger in size than the United States, and scientists are studying it with unmanned submersibles, cameras and nets, looking to chart its biodiversity.

And there's more life on the ice, or just below. Much of it is microscopic, and the organisms depend on sea ice that will weather the heat of the summer. That so-called multi-year ice could become a casualty of global warming if it can't survive the summer sun.

Oceanographers can say with some certainty how much the ocean is warming, and how much the ice is thinning. But biologists can't say much, as yet, about how the ecosystem is changing in response to the warming.

The trip yields perhaps a dozen new species... a menagerie of marine life Dr. Seuss himself would have had trouble inventing. Carrot worms swimming free in the deep ocean. Insect-like creatures scooped from the underside of floating sheets of ice. Animals resembling translucent oranges. Plankton built like tiny gladiators with armor and lethal sickles on their front legs.

The challenge lies not only in identifying animals, but in figuring out their role in the marine ecosystem. Basic questions -- how much animals eat, how fast they grow, how much oxygen they consume -- are pivotal to understanding this realm, not only today, but in a

Jeremy Potter

A ROV -- Remotely Operated Vehicle -- is brought back on board the *Healy* after a dive deep into the Canada Basin.

Richard Harris, NPR

The U.S. Coast Guard icebreaker *Healy* awaits the arrival of NPR's Richard Harris via helicopter.

changed tomorrow.

With the climate changing, some on the month-long trip wonder whether scientists who come here in the next century will still be able to see what they have witnessed.

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